

National Institute for Rocket Propulsion Systems 1st Annual Workshop

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Abstract

The National Institute for Rocket Propulsion Systems (NIRPS) is a Government-wide initiative that seeks to ensure the resiliency of the Nation's rocket propulsion community in order for the enterprise to remain vibrant and capable of providing reliable and affordable propulsion systems for the nation's defense, civil and commercial needs. Recognizing that rocket propulsion is a multi-use technology that ensures the nation's leadership in aerospace, the Government has a vested interest in maintaining this strategic capability through coordinated and synchronized acquisition programs and continual investments in research and development.

NIRPS is a resource for collaboration and integration between all sectors of the U.S. propulsion enterprise, supporting policy development options, identifying technology requirements, and offering solutions that maximize national resources while ensuring that capability exists to meet future demand. NIRPS functions as a multi-agency organization that our nation's decision makers can look to for comprehensive information regarding all issues concerning the propulsion enterprise.

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Introduction

This report summarizes the 1st Annual Workshop for the National Institute for Rocket propulsion Systems (NIRPS). The primary purpose of this workshop was to report the progress and achievements of the Institute since its inception and to seek feedback from other government agencies, industry representatives and academia on the strategic direction for NIRPS. The workshop also served as a forum to understand the efforts of industry and universities to respond to recent trends affecting the propulsion ecosystem. The forum was well attended and resulted in excellent and lively discussion.

AGENDA

National Institute for Rocket Propulsion Systems (NIRPS) Workshop 2012

Thursday December 6, 2012

8:30 a.m. – 6:00 p.m. Pacific Time

Location: In conjunction with JANNAF Conference, December 3-7, 2012 - Hyatt Regency, Monterey, CA

8:30– 10:00	Introduction / NIRPS Overview	
	Welcome <i>Dr. Dale Thomas/Dennon Clardy – NASA/MSFC</i>	Spyglass I
10:00 – 10:15	Break	
10:15 – 12:00	Stewardship Team • 2012 Overview and accomplishments <i>Dr. Rajiv Doreswamy, NASA/MSFC</i> • Department of Commerce “Deep Dive” industrial base survey: Preliminary results – <i>Mr. Ted Bujewski, NASA HQ</i> • Panel Discussion – Industry Perspectives on Stewardship of the Industrial Base <i>Ms. Carla Bossard, Business Development Director for Space and Launch Systems, Aerojet Corporation</i> <i>Mr. Kent V. Rominger/ VP, Strategy and Business Development, Space Launch Division, ATK Aerospace Group</i> <i>John Steinmeyer/Sr. Project Manager, Launch Systems Group SCEC, Orbital Science Corporation</i>	Spyglass I
12:00 – 1:30	Lunch	

1:30 – 3:30	Solutions Team • Solutions Facilitator Team Overview/Status <i>Dr. Thomas M. Brown, NASA/MSFC/Ms. Rhonda Thompson, NASA/MSFC</i> • Industry Perspective on Benefits of NIRPS Solutions <i>Mr. Brett Alexander, Blue Origin</i> • Academia Perspective on Benefits of NIRPS Solutions <i>Dr. Robert Frederick, University of Alabama Huntsville</i> • Web Capabilities Demonstration <i>Mr. Nicholas Kiem, CPIAC</i> • Summary & Conclusions – Dr. Thomas Brown, NASA	Spyglass I
3:30 – 3:45	Break	
3:45– 4:45	Technology Team • Facilitated discussion among NASA, DoD, academia and industry concerning synergies and gaps between current propulsion technology efforts <i>Mr. Thomas Williams – NASA/MSFC</i>	Spyglass I
4:45– 5:30	Wrap-up	Spyglass I

Attendees

See Appendix A.

Presentations

1. “NIRPS, A Year of Progress and Challenge,” L. Dale Thomas, Ph.D., P.E. NASA/MSFC
Dr. Dale Thomas, Director of the National Institute for Rocket Propulsion Systems (NIRPS), presented a history and status of progress of the development of the NIRPS. His presentation included the team structure, goals and strategies developed for CY2012 and progress thus far, governance structure, NASA internal red team review recommendations, a notional operational model for the next 5 years and proposed goals for FY13.
2. “Stewardship Team, Year in Review,” R. Doreswamy, Ph.D., NASA/MSFC
3. “The State of the Space Industrial Base: Recent Department of Commerce Surveys,” Ted Bujewski, NASA/HQ

4. "NIRPS Stewardship Team Industry Perspectives Panel Discussion," Carla Bossard, Aerojet/Huntsville, AL
5. "NIRPS Workshop Stewardship Industry Panel Discussion, ATK Perspective," Kent Rominger, ATK Space Launch Division
6. "Industry Perspective, Orbital Science Corporation," John Steinmeyer, Orbital
7. "NIRPS Facilitator Team 2012 Overview and Accomplishments", Thomas M. Brown, Ph.D., NASA/MSFC
8. "Industry Perspective on Benefits of NIRPS Solutions," Bretton Alexander, Blue Origin, LLC
9. "Academic Perspective on Benefits of NIRPS Solutions," Robert A. Frederick, Jr., Ph.D., University of Alabama in Huntsville
10. "NIRPS Portal Overview," Nick Keim, Johns Hopkins University
11. "Integrated Technology Planning and Road mapping Team Update," Tom Williams, NASA/MSFC

Workshop Results and Discussion

- The high level attendees and number of attendees at the workshop was encouraging
- Knowledge management/lessons learned was a key interest to industry partners.
- Our demo of the web based database currently in development was very well received
- Concerns and key Challenges of Industry were discussed
- Industry interest/acceptance of NIRPS is increasing/encouraging

Workshop Conclusions

The primary conclusion of the workshop was that NIRPS was on a sustainable path, but a few concerns do remain. These include the proper roles of Government, Industry and Academia as well as ensuring that the Institute remains flexible and responsive to rapid changes in the industry landscape. The other primary conclusion was that all sectors of the industry (traditional primes and engine suppliers, integrators and new commercial providers) agree on the value of NIRPS and the need for the Government to have an organization that can serve as an independent source for analyses and policy recommendations.

Workshop Recommendations

The primary recommendations from the workshop were to continue the formulation and implementation of the Institute and start an active transition to operations. Some specific items are tabulated below.

- Continue to build on momentum from NIRPS formulation activities
- Implement MSFC "red" team recommendations to the extent possible, given budget and programmatic constraints
- Develop partnership with US Air Force as a member of NIRPS
- Continue development of a skills and capabilities database and easing access to government facilities, lessons learned and expertise

- Implement recommendations of the National Rocket Propulsion Strategy
- Interface with Academia to develop and implement a focused STEM strategy

Appendix A – Attendees

Name	Organization	E-mail Address	Telephone
L. Dale Thomas	NASA/MSFC	Dale.thomas@nasa.gov	256-544--1180
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